

DEC 11 2006

Application Serial No. 10/626,152
Reply to office action of July 11, 2006

PATENT
Docket: CU-3309

REMARKS/ARGUMENTS

Reconsideration is respectfully requested.

Pending in this patent application are claims 1-14 before this amendment. By the present amendment, claims 1 is amended. No new matter has been added.

As to the specification, minor typographical errors with respect to reference numeral --24-- as in the --upper substrate 24-- were inadvertently introduced in the specification, and appropriate corrections have been made without adding any new matter.

In the office action (page 2), the title is indicated as being not descriptive.

In response, the title has been amended and the examiner's approval for replacement is respectfully requested.

In the office action (page 2), claims 4-5, 8, and 10 stand objected to for containing informalities on grounds that a claimed term "horizontal line" is ambiguous.

In response, appropriate corrections have been made without adding new matter, and the examiner's withdrawal of the objection is respectfully requested.

In the office action (page 2), claim 10 stands objected to again for informalities.

The applicants find that claim 10 correctly recites -- --50~--54° -- and cannot locate the typographical error "50~31 54°" indicated by the examiner. Nevertheless, the examiner is authorized to make an examiner's amendment to -- --50~--54° -- in case the examiner finds it otherwise.

In the office action (page 3), claims 1-10 stand rejected under 35 U.S.C. §102(e)

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as being anticipated by U.S. Patent No. 6,791,640 (Okamoto).

The applicants respectfully **disagree**.

In FIG. 1 (PRIOR ART) of the present application, a separate layer of a phase compensation film 7 (i.e., a $\lambda/4$ film) is formed between the outer layer of the upper substrate 4 (see specification page 2, lines 9-19, para. [0008]) and the polarizing plate 8. Nevertheless, as described in the specification page 4, line 20, to page 5, line 4, (para [0014]), such a conventional reflective liquid crystal display having a separate phase compensation film, i.e., $\lambda/4$ film, can realize a good display owing to the $\lambda/4$ phase difference in the wide area of visible light wavelength, "the conventional reflective liquid crystal display has problems in that the **production cost** is significantly increased and the manufacturing process is complex, since the phase compensating film is ten times more expensive than a commonly used polarizing plate."

The presently claimed invention solves this and other prior art problems. According to an embodiment of the present invention as shown in FIG. 2, the presently claimed invention does **not** require a separate phase compensation layer (such as FIG. 1, element 7) between the polarizing plate 28 and the upper substrate 24. More specifically, "there is **only** a polarizing plate attaching onto outside of the upper substrate 24 opposed to the lower substrate **21** **without** a phase compensation film" as this is clearly described in the specification page 9, line 24 to page 10, line 2.

This is possible in the presently claimed invention, "Since the reflective liquid crystal display of the present invention uses a glass substrate of $\lambda/4$ transparency as an upper substrate 24, an expensive phase compensation film is no longer required" (specification page 11, line 1-4); thus, the upper substrate 24 has a phase

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compensating function (page 11, line 11-12).

Again, the specification page 11, line 14-16, makes it clear that the present invention is unlike the prior art in that no separate phase compensation film is required: "... when the $\lambda/4$ glass substrate **instead** of a phase compensation film is applied as an upper substrate...."

Accordingly, claim 1 has been amended to more clearly recite the present invention: --an upper substrate **being a** transparent substrate capable of compensating a phase of $\lambda/4$ with an optical axis of a predetermined angle, the upper orientation film being formed on a surface of the transparent substrate opposed to the lower substrate--.. The support for this amendment to claim 1 is amply provided in the discussions above.

The cited Okamoto reference is quite different from the presently claimed invention as it teaches the use of the conventional phase compensating structure. Okamoto is directed to providing a reflective LCD provide with touch panel as one example of this is shown in FIG. 16, among others. Nevertheless, Okamoto in all its drawings and the related disclosure text teaches use of **two** optical retardation compensator plates 8, 9 that are formed **on** the "display surface on the side where the substrate 4 is disposed side" such that separate layers 8, 9 of Okamoto are formed **between** the substrate 4 and the polizer plate 10 (see col. 13, lines 55-67). This is correctly acknowledged by the examiner in the office action (page 3) that Okamoto's layer 8 (and 9) is/are a **separate** layer for retardation. That is, **nowhere** in Okamoto teaches or even remotely suggests that its layer 4 is also capable of functioning as a phase compensating layer besides containing the liquid crystal molecules in

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cooperation with its other layer 5.

Accordingly, Okamoto fails to teach the presently claimed invention of the independent claims 1 and 10, and at least on this ground the applicants respectfully request indication of allowable subject matter for all claims 1-10.

For the reasons set forth above, the applicants respectfully submit that claims 1-13 pending in this application are in condition for allowance. The applicants respectfully request a Notice of Allowance in the next action.

This amendment is considered to be responsive to all points raised in the office action. Should the examiner have any remaining questions or concerns, the examiner is encouraged to contact the undersigned attorney by telephone to expeditiously resolve such concerns.

Respectfully submitted,



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